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National Laboratory

TA-53 Facility Management
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TA-53 Procedure

Control of Safety-Related Keys and Locks

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APPROVALS

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1.0 Introduction

Certain keys and combination locks control access to potentially hazardous areas such as beam channels, confined spaces, radioactive material storage, and Restricted Access Areas. These keys and combinations must be controlled to prevent high consequence accidents or incidents, preserve good ALARA practices, and prevent loss of control of radioactive materials.

2.0 Purpose

The purpose of this procedure is to establish requirements and procedures for control of safety-related combinations and keys at TA-53.

3.0 Scope

This procedure applies to standard Laboratory keys and locks (e.g., MP-202, AT-62), combination locks, and Kirk keys controlling access to:

- areas that are High Radiation Areas when beam is off (residual radioactivity hazard);
- non-interlocked areas to which access must be controlled when beam is on;
- radioactive or nuclear material storage;
- designated Restricted Access Areas;
- Limited Access Areas (MP-202 key);
- permit-required confined spaces;
- other areas where hazards or prevailing conditions could result in a high consequence accident or incident;
- areas where formal safety-related administrative control is required for reasons of ALARA, design-base-accident dose limits, control of radioactive or hazardous materials, or similar reasons.

Exclusions: This procedure does not apply to:

- keys used for lockout/tagout for personnel safety (covered by LP-106-01) or control of equipment and system status (covered by LP-106-02);
- keys to machine shops, mechanical rooms, elevator rooms, and similar areas;
- keys with no safety-related purpose or controlling access to areas with routinely accepted industrial hazards such as machinery, pressure systems, properly installed wiring, or office hazards.

4.0 Definitions

4.1. High consequence accident or incident. An occurrence resulting in loss of life, serious injury or occupational illness, exceedance of a radiological administrative control limit in a single exposure, or loss of control of nuclear materials.

4.2. Key custodian. An individual authorized by line management to issue keys and maintain a key inventory.

4.3. Operating organization. The organization responsible for operational, maintenance, or experimental activities in a given area or space.

5.0 Responsibilities

Who	Responsibility
Line manager	• Identify areas where formal key or combination control is required • Implement processes for key and combination control • Designate employees responsible for control of keys and combinations or authorized to possess safety-related keys and combinations • Ensure that safety-related keys and combinations are kept under the appropriate level of control • Establish written agreements with ESH-1 for use of keys to beam-off High Radiation Areas • Provide written instructions to key custodians for issuing safety-related keys • Control and maintain inventories of spare Kirk keys
ESH-1	• Maintain strict control of keys to beam-off high radiation areas • Control Kirk keys to primary beam areas during maintenance periods • Maintain a check-out log for Kirk keys under ESH-1 control
Key Custodian	• Issue and recall keys • Maintain records of keys issued • Maintain a key inventory • Perform periodic status checks as directed by line management to ensure that safety-related keys are under the appropriate level of control

Employee	• Maintain control of keys and combinations that s/he has been issued • Ensure that escorted persons are trained as required • Report any lost key or compromised combination to the key custodian, ESH-1, or his/her line manager, as appropriate

6.0 Precautions and Limitations

Specific training, such as Restricted/Limited Access Area training, radiation worker training, or confined space training, is required prior to entry to many areas under key or combination control. Training for escorted persons may be required, depending on the area. Contact the LANSCE Training Office, 5-6256, for assistance.

7.0 Procedural Steps

7.1 Control of keys

7.1.1. Keys and combinations controlling access to areas where a potential for a high consequence accident or incident exists shall be kept under strict control.

7.1.2. Strict control is accomplished by:

7.1.2.1. keeping keys in a locked lock box, cabinet, or safe to which only a limited number of persons designated by line management have the key or combination, and maintaining an auditable log of key checkout; or

7.1.2.2. assigning keys or combinations to a limited number of designated individuals and periodically ensuring that the keys or combinations are in the possession of only these individuals.

7.1.3. Keys or combinations controlling access to areas with consequences less serious than those in 7.1.1 should be kept under positive control.

7.1.3.1. Positive control consists of maintaining a list of persons to whom keys or combinations are issued and periodically ensuring that the keys or combinations are in the possession of only these individuals.

7.1.4. Line management must ensure that safety-related keys are kept under the appropriate level of control. This should be accomplished by a periodic status check of key or combination issue by the key custodian or line manager. In the event that a key is lost or a combination is compromised, the line manager shall assess the risk and take appropriate actions to preserve the level of control. This may include changing locks, cores, or combinations.

7.1.5. Key custodians shall maintain an inventory of safety-related keys and records of keys issued. They shall notify appropriate line managers of discrepancies resulting from key control status checks .

7.1.6. Key custodians shall issue safety-related keys only in accordance with written agreements with ESH-1 or with the group having ownership of the area under key control, as appropriate.

7.2 Keys to beam-off High Radiation Areas

7.2.1. Keys controlling access to High Radiation Areas (when beam is off, or not associated with beam) shall be kept under strict control by ESH-1, under the authority of the TA-53 Facility Manager. An example is the AT-62 key.

7.2.2. Issuance of keys by ESH-1 to an operating group for the purpose of access to a beam-off High Radiation Area shall be done only in accordance with a formal written agreement between ESH-1 and the operating group. The operating group must maintain strict key control by the means outlined in 7.1.2.

7.3 Kirk keys

7.3.1. Kirk keys to LANSCE primary beam areas shall be controlled by ESH-1 during scheduled maintenance periods. These keys may be issued to operating groups for purposes of maintenance or access when beam is off. ESH-1 shall maintain a log of key issues. Control of these keys during scheduled beam delivery periods is the responsibility of the group owning the Kirk key system.

7.3.2. Methods for key release by a control room shall be specified by the operating group in approved procedures.

7.3.3. The control of Kirk keys to systems at TA-53 other than those specified in 7.3.1 is the responsibility of the group owning the Kirk key

system; alternate arrangements may be made through approved procedures or written agreements.

7.3.4. Kirk keys, when not in use, shall be strictly controlled as specified in 7.1.2. Spare Kirk keys should be kept to a minimum, and shall be strictly controlled.

7.4 Radioactive material storage

7.4.1. Access to radioactive material such as activated components, salvage, or sealed sources shall be controlled to the degree appropriate to the radiological hazard and consequence of loss. Line managers will determine whether the controls of 7.1.2 or 7.1.3 apply. Keys to nuclear materials storage shall be kept under strict control.

8.0. Required Records

8.1. Written agreements, instructions, or procedures for key control and issuance should be reviewed annually by the parties involved in the agreement .

8.2 Written records of key checkout shall be retained by key custodians for three years.

9.0. References

- 53FMP 109-03, “General Emergency Preparedness” (7.10, Restricted Access Areas)
- AR 8-1, "Confined Spaces"
- 53FMP 107-01, “Limited Access Areas”